

(i) CLAIMS

I claim the following:

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (New) A process or method for maximal recovery of stride energy from athletic shoes, for an athlete performing a selected athletic activity, said process or method including, but not limited to, the following steps:

(a) determine the individual rate of pace of said athlete during performance of said selected athletic activity,

(b) determine the spring constant necessary to produce in said shoes harmonic motion at the same frequency as said rate of pace of said athlete, said spring constant being obtained from Hooke's Law or from any alternative formulation of the relationship between frequency of harmonic motion, spring constant or other measure of elasticity, and mass of the vibrating body, solving said relationship with said rate of pace taken as the frequency of harmonic motion, and the body weight of said athlete taken as the mass, deriving said spring constant as the dependent variable,

whereby said athlete may utilize shoes with said spring constant synchronized with said rate of pace, affording said athlete maximal assistance to foot lift-off during said selected athletic activity, with resultant improvement of athletic performance.

12. (New) The method of Claim 11, for a plurality of athletic activities of said athlete involving different rates of pace, by repeating the process of Claim 11 as many times as needed, for one said rate of pace at a time, whereby said athlete can select different shoes providing maximal energy return in different athletic activities.

13. (New) The method of Claims 11,12, for a plurality of athletes engaged in a plurality of athletic activities, by applying said method iteratively to each athlete and each athletic activity, whereby each athlete may select shoes providing maximal energy return for each athletic activity.